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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Hideki Iijima

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EXAMINER

FEELY, MICHAEL J

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/552,344	Applicant(s) IIJIMA ET AL.	
	Examiner Michael J. Feely	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20051007, 20051223</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Pending Claims

Claims 1-8 are pending.

Claim Objections

1. Claim 8 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitations "the main resin" and "the hardening agent" in the cationic electro-paint. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Mason (US Pat. No. 5,209,871). This was cited as an X-reference on the international search report.

Regarding claims 1-5, Mason discloses: **(1)** a polyaddition product of amine compound (a₁) having a polyoxyalkylene chain or chains and monoepoxysilane (a₂) (column 4, line 9 through column 5, line 49), which has a weight-average molecular weight within a range of 250 - 10,000 (column 4, lines 35-41: *based on the MW of the amine*);

(2) in which the amine compound (a₁) having a polyoxyalkylene chain or chains is selected from the group consisting of the compounds represented by the following formulae (1), (2), (3) and (4) *see claim for structures* (column 4, lines 17-63);

(3) in which the monoepoxysilane (a₂) is selected from the group consisting of the compounds represented by the following formulae (5) - (11) *see claim for structures* (column 4, line 64 through column 5, line 21);

(4) which is obtained by subjecting the amine compound (a₁) having a polyoxyalkylene chain or chains and the monoepoxysilane (a₂) to a ring-opening addition reaction, at a ratio of 0.5 - 2 moles of the monoepoxysilane per mole of amino groups of the amine compound (column 5, lines 37-49); and

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(5) which has a weight-average molecular weight within a range of 1,000 - 3,000 (column 4, lines 35-41: *based on the MW of the amine*).

6. Claims 1-6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Gam (US Pat. No. 6,207,731).

Regarding claims 1-6 and 8, Gam discloses: (1) a polyaddition product of amine compound (a₁) having a polyoxyalkylene chain or chains and monoepoxysilane (a₂) (column 2, lines 25-54), which has a weight-average molecular weight within a range of 250 - 10,000 (column 2, lines 55-65: *based on the MW of the amine*);

(2) in which the amine compound (a₁) having a polyoxyalkylene chain or chains is selected from the group consisting of the compounds represented by the following formulae (1), (2), (3) and (4) *see claim for structures* (column 2, lines 55-65);

(3) in which the monoepoxysilane (a₂) is selected from the group consisting of the compounds represented by the following formulae (5) - (11) *see claim for structures* (column 2, line 66 through column 3, line 13);

(4) which is obtained by subjecting the amine compound (a₁) having a polyoxyalkylene chain or chains and the monoepoxysilane (a₂) to a ring-opening addition reaction, at a ratio of 0.5 - 2 moles of the monoepoxysilane per mole of amino groups of the amine compound (column 2, lines 38-44);

(5) which has a weight-average molecular weight within a range of 1,000 - 3,000 (column 2, lines 55-65: *based on the MW of the amine*);

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(6) a cationic electro-paint (column 3, line 45 through column 4, line 18) which comprises:

an amine-added epoxy resin obtained by addition reaction of amino-containing compound with epoxy resin or a xylene formaldehyde resin-modified, amino-containing epoxy resin as the main resin (column 3, line 45 through column 4, line 18); and

blocked polyisocyanate compound as the hardening agent (column 3, line 45 through column 4, line 18),

to which paint a polyaddition product as set forth in any one of claims 1-5 is added at an optional stage of the paint formulation, at a ratio of 0.1-20 parts by weight per 100 parts by weight of combined solid compounds of the main resin and the hardening agent (column 3, line 45 through column 4, line 18); and

(8) coated articles which are electro-coated with a cationic electro-paint as set forth in Claim 6 or 7 (Abstract).

7. Claims 1-6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Gam et al. (US Pat. No. 5,883,276).

Regarding claims 1-6 and 8, Gam et al. disclose: (I) a polyaddition product of amine compound (a₁) having a polyoxyalkylene chain or chains and monoepoxysilane (a₂) (Abstract; column 2, lines 15-25), which has a weight-average molecular weight within a range of 250 - 10,000 (Abstract; column 2, lines 15-25);

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(2) in which the amine compound (a_1) having a polyoxyalkylene chain or chains is selected from the group consisting of the compounds represented by the following formulae (1), (2), (3) and (4) *see claim for structures* (column 2, line 65 through column 3, line 6);

(3) in which the monoepoxysilane (a_2) is selected from the group consisting of the compounds represented by the following formulae (5) - (11) *see claim for structures* (column 3, lines 7-20);

(4) which is obtained by subjecting the amine compound (a_1) having a polyoxyalkylene chain or chains and the monoepoxysilane (a_2) to a ring-opening addition reaction, at a ratio of 0.5 - 2 moles of the monoepoxysilane per mole of amino groups of the amine compound (column 4, lines 57-64);

(5) which has a weight-average molecular weight within a range of 1,000 - 3,000 (Abstract; column 2, lines 15-25);

(6) a cationic electro-paint (column 2, lines 45-56) which comprises:

an amine-added epoxy resin obtained by addition reaction of amino-containing compound with epoxy resin or a xylene formaldehyde resin-modified, amino-containing epoxy resin as the main resin (column 2, lines 45-56); and

blocked polyisocyanate compound as the hardening agent (column 2, lines 45-56),

to which paint a polyaddition product as set forth in any one of claims 1-5 is added at an optional stage of the paint formulation, at a ratio of 0.1-20 parts by weight per 100 parts by weight of combined solid compounds of the main resin and the hardening agent (column 2, lines 45-56); and

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(8) coated articles which are electro-coated with a cationic electro-paint as set forth in Claim 6 or 7 (Abstract).

Claim Rejections - 35 USC § 102/103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 7 and 8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Gam et al. (US Pat. No. 5,883,276).

Regarding claims 7 and 8, Gam et al. disclose: (7) a cationic electro-paint comprising (column 2, lines 45-56):

an advancedly formulated cationic electro-paint to which 0.1-20 parts by weight of an aqueous dispersion of a polyaddition product as set forth in any one of claims 1-5 is added per 100 parts by weight of combined solid components of the main resin and the hardening agent (column 2, lines 45-56),

said aqueous dispersion being prepared by adding an organic acid to the polyaddition product *to neutralize* (column 3, lines 39-52) and dispersing it in water (column 3, lines 39-52); and

(8) coated articles which are electro-coated with a cationic electro-paint as set forth in claim 7 (Abstract).

Gam et al. fail to explicitly disclose: (7) wherein the acid is added at a ratio within a range of 10–100, as converted to mg KOH per gram of solid component. However, it appears that this amount would have been inherently satisfied by Gam et al., in order to *neutralize* the product.

Alternatively, one of ordinary skill in the art would have recognized this quantity as a result effective variable, wherein a proper amount of acid is required to *neutralize* the product, rendering a water-soluble product. In light of this, it has been found that, “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation,” – *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); and “A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation,” – *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Therefore, it not explicitly taught by Gam et al., then the instantly claimed acid quantity would have been obvious to one of ordinary skill in the art at the time of the invention. A proper amount of acid would have been required to *neutralize* the product, rendering a water-soluble product.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is (571)272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Feely/
Primary Examiner, Art Unit 1796

March 16, 2008